

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 1-3, 5-7, 9-11 and 13-16 ADD new claims 18-25 in accordance with the following:

1-3 (CANCELLED)

4. (PREVIOUSLY PRESENTED) An exposure method which processes an optical proximity correction to exposure pattern data and exposes a substrate in accordance with bitmapped pattern data, the method comprising:

an optional first step of correcting the exposure pattern data, and converting the corrected exposure pattern data into plural divided exposure pattern data;

an optional second step of converting the exposure pattern data into minus objective pattern data and minus pattern data, wherein an area corresponding to the minus pattern data is included in an area corresponding to the minus objective pattern data,

wherein if a number of the divided exposure pattern data is expected to be less than that of the minus objective pattern data and the minus pattern data, said optional first step is processed, and wherein if a number of the minus objective pattern data and the minus pattern data is expected to be less than that of the divided exposure pattern data, said optional second step is processed;

a bitmap processing step of generating the bitmapped pattern data by deleting the minus pattern data from a combination of the divided exposure pattern data and the minus objective pattern data; and

an exposure step of exposing the substrate in accordance with the bitmapped pattern data.

5-7 (CANCELLED)

8. (PREVIOUSLY PRESENTED) An exposure system which processes an optical proximity correction to exposure pattern data and exposes a substrate in accordance with bitmapped pattern data, the system comprising:

an optional first correction processing unit which corrects the exposure pattern data, and converts the corrected exposure pattern data into plural divided exposure pattern data;

an optional second correction processing unit which converts the exposure pattern data into minus objective pattern data and minus pattern data, wherein an area corresponding to the minus pattern data is included in an area corresponding to the minus objective pattern data,

wherein if a number of the divided exposure pattern data is expected to be less than that of the minus objective pattern data and the minus pattern data, said optional first correction processing unit processes the correction and the conversion, and wherein if a number of the minus objective pattern data and the minus pattern data is expected to be less than that of the divided exposure pattern data, said optional second correction processing unit processes the conversion;

a bitmap processing unit which generates the bitmapped pattern data by deleting the minus pattern data from a combination of the divided exposure pattern data and the minus objective pattern data; and

an exposure unit which exposes the substrate in accordance with the bitmapped pattern data.

9-11 (CANCELLED)

12. (PREVIOUSLY PRESENTED) An exposure data processing apparatus which processes an optical proximity correction to exposure pattern data, to generate corrected exposure pattern data, the apparatus comprising:

an optional first correction processing unit which corrects the exposure pattern data, and converts the corrected exposure pattern data into plural divided exposure pattern data;

an optional second correction processing unit which converts the exposure pattern data into minus objective pattern data and minus pattern data to be deleted from the minus objective pattern data, to generate the corrected exposure pattern data, wherein an area corresponding to the minus pattern data is included in an area corresponding to the minus objective pattern data,

wherein if a number of the divided exposure pattern data is expected to be less than that of the minus objective pattern data and the minus pattern data, said optional first correction processing unit processes the correction and the conversion, and wherein if a number of the minus objective pattern data and the minus pattern data is expected to be less than that of the divided exposure pattern data, said optional second correction processing unit processes the conversion.

13-16 (CANCELLED)

17. (PREVIOUSLY PRESENTED) An exposure data processing method which processes an optical proximity correction to exposure pattern data and exposes a substrate in accordance with bitmapped pattern data, the method comprising:

correcting the exposure pattern data, and converting the corrected exposure pattern data into plural divided exposure pattern data if a number of the divided exposure pattern data is expected to be less than that of the minus objective pattern data and the minus pattern data;

converting the exposure pattern data into minus objective pattern data and minus pattern data to be deleted from the minus objective pattern data, wherein an area corresponding to the minus pattern data is included in an area corresponding to the minus objective pattern data if a number of the minus objective pattern data and the minus pattern data is expected to be less than that of the divided exposure pattern data.

18. (NEW) The exposure method according to claim 4, wherein in the case of the optical proximity correction for preventing corners of an exposed pattern on the substrate from being rounded, the exposure pattern data is converted into the minus objective pattern data which is an enlarged one of the exposure pattern data, and into the minus pattern data positioned on sides of the area corresponding to the minus objective pattern data.

19. (NEW) The exposure method according to claim 8, wherein in the case of the optical proximity correction for preventing corners of an exposed pattern on the substrate from being rounded, the exposure pattern data is converted into the minus objective pattern data which is an enlarged one of the exposure pattern data, and into the minus pattern data positioned on sides of the area corresponding to the minus objective pattern data.

20. (NEW) The exposure method according to claim 12, wherein in the case of the optical proximity correction for preventing corners of an exposed pattern on the substrate from being rounded, the exposure pattern data is converted into the minus objective pattern data which is an enlarged one of the exposure pattern data, and into the minus pattern data positioned on sides of the area corresponding to the minus objective pattern data.

21. (NEW) The exposure method according to claim 17, wherein in the case of the optical proximity correction for preventing corners of an exposed pattern on the substrate from being rounded, the exposure pattern data is converted into the minus objective pattern data which is an enlarged one of the exposure pattern data, and into the minus pattern data positioned on sides of the area corresponding to the minus objective pattern data.

22. (NEW) The exposure method according to claim 4, wherein in the case of the optical proximity correction for preventing an enlargement at a position confronting an adjacent other pattern in a linear exposed pattern on the substrate, the exposure pattern data is converted into the minus objective pattern data consisting of the exposure pattern data, and into the minus pattern data at a position confronting the adjacent other pattern.

23. (NEW) The exposure method according to claim 8, wherein in the case of the optical proximity correction for preventing an enlargement at a position confronting an adjacent other pattern in a linear exposed pattern on the substrate, the exposure pattern data is converted into the minus objective pattern data consisting of the exposure pattern data, and into the minus pattern data at a position confronting the adjacent other pattern.

24. (NEW) The exposure method according to claim 12, wherein in the case of the optical proximity correction for preventing an enlargement at a position confronting an adjacent other pattern in a linear exposed pattern on the substrate, the exposure pattern data is converted into the minus objective pattern data consisting of the exposure pattern data, and into the minus pattern data at a position confronting the adjacent other pattern.

25. (NEW) The exposure method according to claim 17, wherein in the case of the optical proximity correction for preventing an enlargement at a position confronting an adjacent other pattern in a linear exposed pattern on the substrate, the exposure pattern data is converted into the minus objective pattern data consisting of the exposure pattern data, and into the minus pattern data at a position confronting the adjacent other pattern.